

LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES



**OFFICE OF FISHERIES
INLAND FISHERIES SECTION**

PART VI -A

WATERBODY MANAGEMENT PLAN SERIES

NEW ORLEANS CITY PARK

HISTORY & MANAGEMENT ISSUES

CHRONOLOGY

March 2009 - Prepared by

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LAKE HISTORY

GENERAL INFORMATION

Date reservoir formed

The southernmost lagoon is a remnant of historical Bayou Metairie and was enlarged and dredged around 1900 (Figure 1). Big Lake was dug shortly after as a borrow pit during the construction of the New Orleans Museum of Art (Figure 1). The remaining lagoons were dug during the 1930's under the Works Progress Administration (Mark Schexnayder, personal communication, March 18, 2009). More than \$12 million federal dollars were spent and more than 20,000 men and women were employed through the Works Progress Administration building bridges, roadways, fountains, a garden, and a stadium and digging over 10 miles of lagoons – work all done by hand (New Orleans City Park Improvement Association, 2005-2009).

Impoundment

Owners – City of New Orleans

Purposes for creation – Provide recreational outdoor activities such as fishing and boating in an urban environment.

Size

The lagoons are interconnected throughout the 1300 acre park. The lagoons are divided into two separate systems, the northern lagoons and the southern lagoons. The northern and southern lagoons are located north and south of I-610, respectively (Figure 1). The southern lagoon system is further divided into the upper and lower lagoons separated by a weir dam (Burt-Kleinpeter, Inc. 1996). There are approximately 114 acres of water throughout the park, 87 acres in the northern end and 27 acres in the southern end (surface area calculated using SONRIS provided by the Louisiana Department of Natural Resources (LDNR)).

Water shed

In addition to rain and runoff from the 1300 acre park and surrounding urban environment, there are five water sources that maintain the water level in the 113 acre lagoon system. There are currently two functioning sources of well water, a functioning 99 GPM pump, a non-functioning 3000 GPM pump, and a functioning 16 inch gravity culvert that provides water from Bayou St. John. The gravity culvert is the only source of water for the northern lagoon system. Prior to Hurricane Katrina, the 3000 GPM pump pulled water into Big Lake. Currently, the 99 GPM pump and both wells pull water into Bayou Metairie (Figure 1).

Pool stage

Elevations vary throughout the lagoon system. The northern lagoon system has an elevation of approximately -4.8 feet MSL; the upper southern lagoon system has an elevation of approximately -0.3 feet MSL; and the lower southern lagoon system has an elevation of approximately -3.4 feet MSL (Burt-Kleinpeter, Inc. 1996).

There are four outlet weirs and one weir dam in the system. Two of the weir drains are located in the northern lagoon system. The first is near the corner of Robert E. Lee

Boulevard and Marconi Boulevard. This is an 18 inch overflow outlet that flows into the city drainage system. The other is located off of Zachary Taylor Drive in the middle of the park. It consists of a free flowing weir that drains into a 65 inch by 40 inch culvert. The culvert then drains into the Orleans Outfall Canal. There is another structure directly south of I-610 that drains the southern lagoon system. This is a free-flowing 24 inch culvert that flows into the Orleans Outfall Canal during periods of high water. Further south there is a weir dam that separates the upper and lower sections of the southern lagoons. The final drainage structure is located at the corner of Marconi Boulevard and City Park Avenue. This is a weir structure that houses a 12 inch butterfly valve. It is a controllable structure that flows into a 24 inch culvert that drains into the Orleans Outfall Canal (Figure 1).

Drawdown description

There is no control structure capable of draining the entire lagoon system. However, the drain located at the end of Bayou Metairie at the corner of City Park Avenue and Marconi Boulevard can be used to drain the southern lagoon system above the spillway.

Spillway

Gate size – N/A

Number of gates – 1

Condition – Good

Flow rate – Dependent on overflow from southern lagoon system

Who controls

The City Park Improvement Association, a state agency under the Louisiana Department of Culture, Recreation, and Tourism

Members – 2013	
Robert Becker, Chief Executive Officer email: bbecker@nocp.org	New Orleans City Park 1 Palm Drive New Orleans, LA 70124 (504) 482-4888 email: info@nocp.org
Rob DeViney, Chief Operating Officer email: rdeviney@nocp.org (504) 482-4888	
John Hopper, Chief Development Officer (Fundraising and PR) email: jhopper@nocp.org (504) 259-1509	
Kevin Cox, Chief Financial Officer email: kcox@nocp.org (504) 483-8482	
George Parker, Chief Administrative Officer email: gparker@nocp.org (504) 483-9359	

Authorization

The New Orleans City Park Board of Commissioners (Charter, New Orleans City Park, no date)

ACCESS

Boat docks

No boat docks are located in City Park. Motorized watercrafts are prohibited in the lagoon system. The prohibition is enforced by the New Orleans City Park Police. No personal canoes or kayaks are allowed in the lagoon system. All non-motorized watercrafts must be rented from the park or associated organizations. Please see the following code of ordinance for the City of New Orleans under Article I. In General (Municode, updated January 22, 2009):

Sec. 106-3. Use of private watercraft prohibited in City Park.

It shall be unlawful for any person to use or operate a privately owned watercraft within the boundaries of City Park, without first having applied for and obtained a permit from the general manager of New Orleans City Park Improvement Association.

(Code 1956, § 42-115)

Piers

A fishing pier and parking lot were constructed on Marconi Boulevard between Harrison Ave and Filmore Ave (Figure 1). A fishing pier and recreations rental facility was also built on Big Lake.

State/Federal facilities

The City Park Improvement Association is part of the Louisiana Department of Culture, Recreation, and Tourism.

Reefs

In January 2011, Christmas tree reefs were placed in the lagoon along Marconi Boulevard between Harrison Ave and Filmore Ave. A few of the single tree structures remained buoyant weeks after deployment. The floating trees eventually settled in random locations within the lagoon. A large multi-tree reef and several single tree structures did remain in place at the fishing pier (Figure 1).

SHORELINE DEVELOPMENT

Shoreline development by landowners

The lagoon system is located in a park surrounded by urban development. There are also several buildings located in close proximity to the lagoon system within the park such as: The New Orleans Museum of Art, the Casino Building, the fishing education center, the Tad Gormley Stadium, the golf course club house, the Peristyle, Storyland, the Sculpture Garden, The New Orleans Botanical Gardens, several maintenance and police buildings (Figure 2).

PHYSICAL DESCRIPTION

Shoreline length

There are 15 miles of shoreline throughout the 1300 acre park. The lagoons are divided into two separate systems, the northern lagoons (11 miles) and the southern lagoons (4 miles; shoreline calculated using SONRIS provided by LDNR).

Average depth

The average depth of the lagoon system is 3 feet.

Maximum depth

The maximum depth of the lagoon system is 8 feet.

Natural seasonal water fluctuation

The water levels in the lagoon system can fluctuate anywhere from 2 to 3 feet above or below pool stage during times of heavy rain and drought.

EVENTS / PROBLEMS

Water Level

- The entire park and surrounding area was inundated after Hurricane Katrina in 2005 for approximately 3 weeks.
- The lagoon system lacks an adequate fresh water supply.

Aquatic Vegetation

There are currently no problems with aquatic vegetation in New Orleans City Park. Water hyacinth has historically been an issue. The New Orleans Mosquito, Termite and Rodent Control Board (NOMTRCB) actively manage mosquitos and other pests within the park. Board employees have also been managing water hyacinth. At this time, LDWF does not have records of the board's treatment efforts.

In 2013 a severe duckweed infestation occurred in the northern lagoons, subsequently causing a fish kill. District 8 spray crews made several applications of diquat which significantly reduced duckweed coverage in the lagoons.

Annual Fishing Rodeo

New Orleans City Park hosts an annual bass rodeo that dates back to 1946 and is considered the country's oldest freshwater fishing tournament (New Orleans City Park Improvement Association, 2005-2009).

Recovery and Improvement Projects

Descriptions of projected improvements for New Orleans City Park are available on the New Orleans City Park website (New Orleans City Park Improvement Association, 2005-2009). <http://www.neworleanscitypark.com>

MANAGEMENT ISSUES

AQUATIC VEGETATION

Type map

A survey of aquatic plant species composition and infestation was conducted by the Louisiana Department of Wildlife and Fisheries during the summer of 1984. The following observations were made:

- *Ceratophyllum demersum* (coontail) was the most abundant species in the system. Coverage ranged from light to moderate fringe in most areas to heavy solid mat in the lagoon south of the intersection of Marconi Drive and Filmore Avenue.
- *Myriophyllum spicatum* (Eurasian watermilfoil) was the most dominant species in the heavily infested lagoon immediately north of Filmore Avenue along Marconi.
- Other aquatic plant species included *Pistia stratiotes* (water lettuce), *Lemna* spp. (duckweed), and *Spirodela* spp. (duckweed).

In 2013, moderate densities of *Ceratophyllum demersum* (coontail) were observed in the northern lagoons. The coontail provides excellent fish habitat and is not considered a nuisance at this time.

Biomass

There are no biomass estimates available for this area.

Treatment history by year available

Biological

The NOMTRCB is currently experimenting with biological controls for water hyacinth in the park. The mottled water hyacinth weevil *Neochetina eichhorniae* has been introduced into an isolated area and is monitored by NOMCB personnel.

Chemical

Brackish water pumped from Bayou St. John typically controls excessive aquatic vegetation in the park lagoons. However, in 2013 salinity in the northern lagoons decreased. The lower salinity conditions promoted growth of the nuisance plants duckweed and water hyacinth.

In 2013, LDWF treated approximately 34 acres of duckweed in the northern lagoons. An unknown amount of water hyacinth was also treated by the NOMTRCB. Table 1 lists LDWF chemical treatment efforts.

Table 1. LDWF chemical treatment history of NOCP for 2006, 2007 and 2013.

YEAR	CHEMICAL	QTY	VEGETATION	ACRES
2006	Reward	12 gal	Duckweed	16
2007	Reward	20 gal	Duckweed	8
2013	Tribune	34 gal	Duckweed	34

HISTORY OF REGULATIONS

Recreational

State recreational fishing regulations apply. Recreational fishing regulations may be viewed at the link: <http://www.wlf.louisiana.gov/fishing/regulations>

Prior to Hurricane Katrina, the park association required anglers to purchase a fishing permit from City Park. This requirement has been suspended until further notice. See the following code of ordinance for the City of New Orleans under Article III. Parks and Playgrounds for gear and permission restrictions (Municode, updated January 22, 2009):

Sec. 106-167. Possession of seines, nets, etc., in parks.

It shall be unlawful for any person to have in his possession or to carry within the limits of the city parks without the authority of the boards of commissioners of such parks, or during the closed season as fixed by such boards, any fish nets, cast nets, seines, fishing lines or poles. (Code 1956, § 43-42)

Sec. 106-166. Fishing in parks without permission or during closed season prohibited.

It shall be unlawful for any person to kill, take, snare, pursue, catch or have in possession any fish within the limits of the city parks without the authority of the board of commissioners of such parks or during the closed season, as fixed by such boards.

(Code 1956, § 43-41)

Commercial

Commercial fishing is prohibited. The prohibition is enforced by the New Orleans City Park Police Department.

FISH KILLS / DISEASE HISTORY

A minor fish kill occurred in May of 2012. The kill occurred in the western end of Bayou Metairie and was likely caused by excessive storm water runoff. District biologists received a report of the kill several days after it occurred. The kill was considered minor and fish kill estimates were not conducted. However, dead largemouth bass and bluegill were observed.

A significant fish kill occurred on August 16th, 2013 southeast of Diagonal Dr. Staff from LDWF Marine Fisheries Section CSA 2 investigated the kill and filed a report. The kill was reportedly dominated by threadfin shad and bluegill. Gizzard shad, largemouth bass and yellow bass were also observed dead. The kill was likely caused by a severe duckweed infestation covering the water's surface.

CONTAMINANTS / POLLUTION

Water quality

No fish consumption or swimming advisories have been issued for the New Orleans City Park lagoons. The multiple connections to Bayou St. John result in increased salinity levels in the lagoon system. During periods of low water, this salinity can exceed tolerance of freshwater fishes.

BIOLOGICAL

Fish samples

Pre 1965 – There are no records of fish sampling.

Post 1965 – There are records of fish sampled in 1983; however, these records consist of a summary chart. The original data sheets cannot be located. New Orleans City Park Improvement Association prohibited the use of rotenone or any chemical based sampling in the park lagoons.

In 2008, LDWF initiated standardized sampling in the New Orleans City Park lagoons at established site locations (Figure 3).

The University of New Orleans, led by the Pontchartrain Institute for Environmental Sciences has been sampling the New Orleans City Park lagoons since 2006. Shoreline seining is conducted at three sites in the lagoon system.

Table 2. Historical, present and proposed fisheries sampling from 1983 – 2016.

NEW ORLEANS CITY PARK FISH SAMPLING	
1983	Unknown method of sampling referred to as a “population survey”
1984-2005	No sampling
2006-2007	University of New Orleans: Seine hauls – 3 hauls/month
2008	Electrofishing – 9-15 minute samples (spring) 4-15 minute samples (fall) University of New Orleans: Seine hauls – 3 hauls/month
2009	Electrofishing - 9-15 minute samples (spring) 9-15 minutes samples (fall) University of New Orleans: Seine hauls – 3 hauls/month
2010	Electrofishing - spring and fall; monthly collections of Rio Grande cichlids and bluegill to perform life history study and compare diets (Loyola University New Orleans)

2011	Electrofishing 4 -15 minute samples spring and fall
2012	Electrofishing 4-15 minute samples spring and fall
2013	Electrofishing 4-15 minute samples spring and fall
2014	Electrofishing 4-15 minute samples spring and fall
2015	Electrofishing 4-15 minute samples spring and fall
2016	Electrofishing 4-15 minute samples spring and fall

Lake records

According to the New Orleans City Park Improvement Association (2009), the largest fish ever caught in the park lagoons was a 52 pound buffalo. This fish was caught by 12 year old, Tommy Descant, on July 21, 1976. The website also states that a 44 pound blue catfish, 42 inches in length and 26 inches in girth, was caught in February 2005. Several trophy largemouth bass were captured by anglers in 2013. The new NOCP largemouth bass record of 9.05lbs was caught by Mr. Tim Zissis on August 14, 2013.

Stocking History

Table 3. Stocking history of NOCP lagoons from 1999 – 2013.

NEW ORLEANS CITY PARK LAGOONS STOCKING			
Species	Date	Size	Total #
Florida largemouth bass (FLMB)	1/16/1999	1-year	1,289
FLMB	1/29/1999	1-year	1,305
blue catfish	8/1/2002	Fingerlings	3,312
bluegill	1/29/2003	Fingerlings	53,887
FLMB	5/8/2003	Fingerlings	10,965
FLMB	10/30/2003	Phase II Fingerlings	400
channel catfish	2/3/2004	Adults	48
FLMB	3/16/2004	Adults	154
bluegill	11/30/2004	Fingerlings	11,662
FLMB	4/25/2005	Fingerlings	4,834
FLMB	6/9/2005	Fingerlings	1,655
bluegill	12/8/2006	Fingerlings	2,699
largemouth bass (LMB)	12/8/2006	Fingerlings	523
redeer sunfish	12/8/2006	Fingerlings	17
warmouth	12/8/2006	Fingerlings	87
channel catfish	10/10/2007	Fingerlings	2,500

largemouth bass	2/18/2009	Adults	53
LMB	2/19/2009	Adults	60
FLMB	3/24/2009	Adults	250
channel catfish		Fingerlings	204
bluegill	10/27/2010	Fingerlings	18,195
FLMB	3/14/2013	Adults	50

Species profile

Table 4. Fish species list for NOCP lagoons.

Freshwater Species	
<i>Lepomis miniatus</i>	red spotted sunfish
<i>Lepomis gulosus</i>	warmouth
<i>Lepomis microlophus</i>	redeer sunfish
<i>Lepomis macrochirus</i>	bluegill
<i>Gambusia affinis</i>	western mosquitofish
<i>Micropterus salmoides</i>	largemouth bass
<i>Lepisosteus oculatus</i>	spotted gar
<i>Lepisosteus osseus</i>	longnose gar
<i>Dorosoma petenense</i>	threadfin shad
<i>Ictiobus bubalus</i>	smallmouth buffalo
<i>Ictalurus furcatus</i>	blue catfish
<i>Ameiurus natalis</i>	yellow bullhead
<i>Ictalurus punctatus</i>	channel catfish
<i>Herichthys cyanoguttatus</i>	Rio Grande cichlid
<i>Poecilia latipinna</i>	sailfin molly
<i>Menidia beryllina</i>	inland silverside
<i>Cyprinodon variegatus</i>	sheepshead minnow
<i>Dorosoma cepedianum</i>	gizzard shad
<i>Morone mississippiensis</i>	yellow bass

Genetics

Genetic samples were taken from 12 largemouth bass in 2008. Analysis indicated that all bass were northern subspecies.

Threatened/endangered/exotic species

Invasive exotic fish species - Rio Grande Cichlid (*Herichthys cyanoguttatus*)

Since 1995, the Rio Grande cichlid has progressively become more common in the waters in and around New Orleans. Known commonly as the “Texas Blue” in the aquarium trade, this fish breeds readily in aquaria and in the wild. Some pet owners have admitted to dumping these and other ornamental fish species into New Orleans area waters. The species has become established and is a competitive threat to native fish.

Apple snails were discovered In 2013. They rapidly expanded in the northern lagoons. Although not positively identified, the snails are presumed to be Channeled apple snails *Pomacea canaliculata*. No estimates of snail abundance have been made but their distribution is easily observed by the presence of bright pink egg masses. Apple snails consume aquatic vegetation and may threaten aquatic habitat in the lagoons.

CREEL

Historic information

There have been no angler surveys conducted on the New Orleans City Park lagoons.

Current methods

There is a cooperative effort between the Louisiana Department of Wildlife and Fisheries and the University of New Orleans to conduct a creel survey throughout New Orleans City Park. This is a component of a current mark/recapture study to evaluate stocking success of adult largemouth bass and an effort to quantify fishing pressure throughout the lagoon system.

HYDROLOGICAL CHANGES

Excessive siltation has decreased water depth and inhibited flow throughout the system. This accumulation of organic materials has created a eutrophic environment resulting in low dissolved oxygen levels. Inhibited and inoperable drains have also resulted in stagnant water and low dissolved oxygen levels.

The addition of two freshwater well sources into the lagoon system serve as a means to regulate water level and dilute the brackish water pumped in from Bayou St. John.

A dredging project was completed in Bayou Metairie in 2012. Sportfish Restoration Grant F146D “Fisheries Habitat Improvements in the Bayou St. John / Metairie Bayou Complex” deepened Bayou Metairie. Dredge material and on site aggregates were utilized to restore eroding islands. One island was successfully restored and replanted with native vegetation under project authorization. Another island was restored by NOCP.

WATER USE

Hunting

Hunting is prohibited in New Orleans City Park. The prohibition is enforced by the City Park Police Department. Please see the following code of ordinance for the City of New Orleans under Article VII. City Park (Municode, updated January 22, 2009):

Sec. 106-301. Prohibition of certain activities.

It shall be unlawful for any person to engage in any of the activities herein below listed while within the confines of City Park. Those activities which shall be unlawful unless specifically approved by the director of the park are:

(b) There shall be no trapping, hunting, discharging of firearms, or other noisemaking devices whatsoever in the park. (M.C.S., Ord. No. 22166, § 1, 3-16-06; M.C.S., Ord. No. 22996, § 3, 2-15-08)

Swimming

Swimming is prohibited in New Orleans City Park and is enforced by the City Park Police Department. Please see the following code of ordinance for the City of New Orleans Article VII. City Park (Municode, updated January 22, 2009):

Sec. 106-301. Prohibition of certain activities.

It shall be unlawful for any person to engage in any of the activities herein below listed while within the confines of City Park. Those activities which shall be unlawful unless specifically approved by the director of the park are:

(l) It is prohibited to bathe or wade in or enter any lake, pool, lagoon, fountain or Bayou St. John.

(M.C.S., Ord. No. 22166, § 1, 3-16-06; M.C.S., Ord. No. 22996, § 3, 2-15-08)

REFERENCES

Burk-Kleinpeter Inc. 1996. Bayou St. John Environmental Management Study. Prepared for The Board of Commissioners of the Orleans Levee District.

Charter, New Orleans City Park, no date. Board of Commissioners for the New Orleans City Park Improvement Association. Last viewed on March 18, 2009.

http://www.legis.state.la.us/boards/board_members.asp?board=240

Municode, updated January 22, 2009. City of New Orleans Municipal Code. Last viewed on March 17, 2009. <http://www.municode.com/resources/gateway.asp?pid=10040&sid=18>.

New Orleans City Park Improvement Association, 2005-2009. New Orleans City Park. New Orleans, LA. Last viewed on March 17, 2009. <http://www.neworleanscitypark.com>.

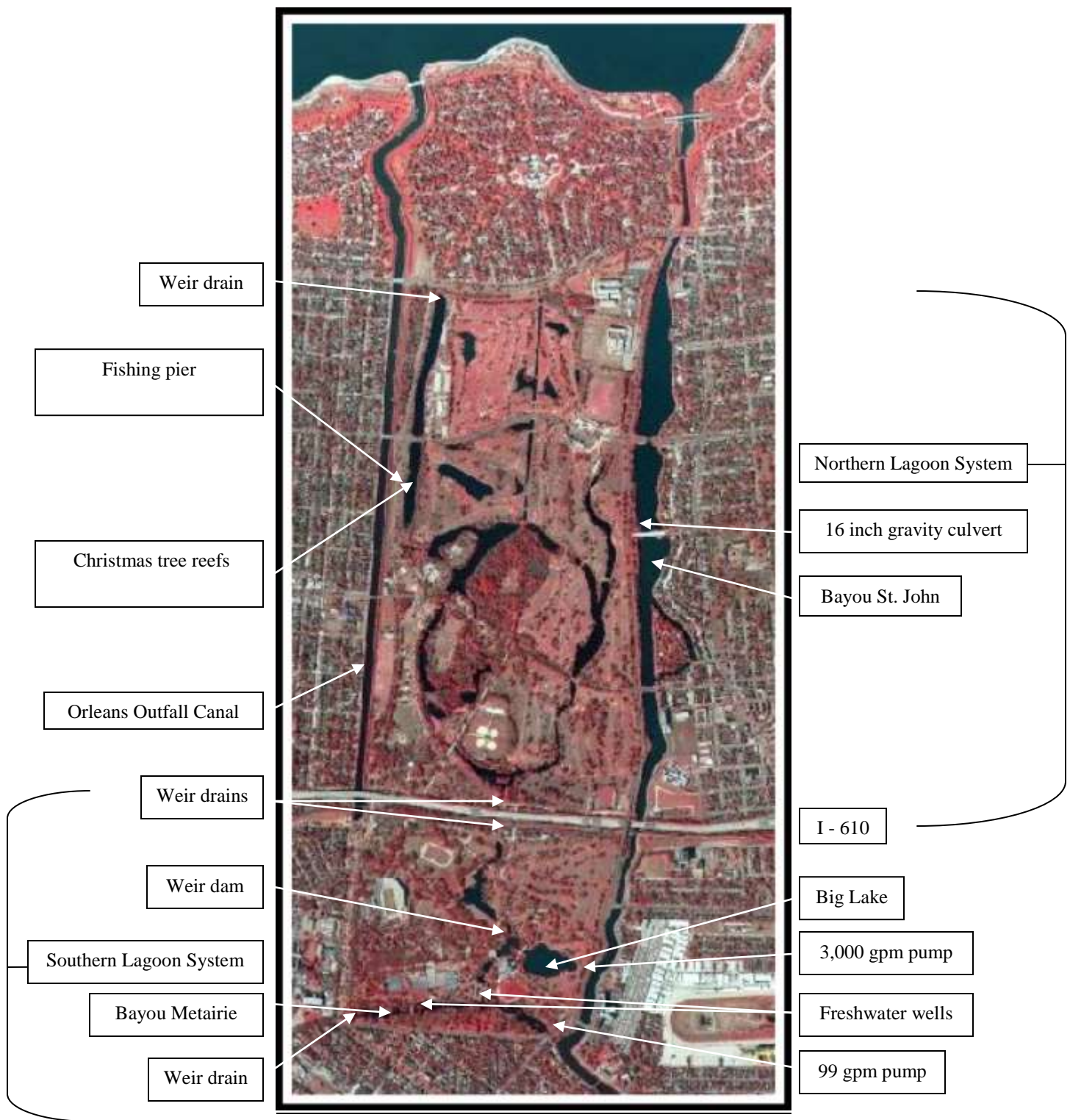


Figure 1. Map of New Orleans City Park. Aerial photography courtesy of Louisiana Department of Natural Resources (SONRIS).

Administration 5
 Administration Future 18
 Amusement Park 10
 Big Lake Future 14
 Botanical Garden 13
 Christian Brothers School 17
 Conservatory 12
 Couturie Forest Arboretum 27
 Dreyfous Meadow 8
 Dog Park Future 22
 Equestrian Center 28
 Festival Grounds Future 20
 Garden Study Center 12
 Golf & Driving Range 29
 Marconi Meadow 25
 Museum of Art 7
 Pavilion 13
 Pelican Greenhouse 19
 Peristyle 2
 Picnic Shelter (Closed) 1
 Picnic Shelter (Closed) 9
 Playground (age 2-5) 3
 Playground (age 5-12) 9
 Popp Bandstand 3
 Popp Fountain 21
 Practice Track 16
 Sculpture Garden 6
 Soccer 23
 Soccer 26
 Stadium- Pan Am 24
 Stadium- Tad Gormley 15
 Storyland 11
 Tennis Center 5
 Tennis Complex Future 25
 Timken Center 4
 Train Garden 12
 Tri-Centennial Place Future 5

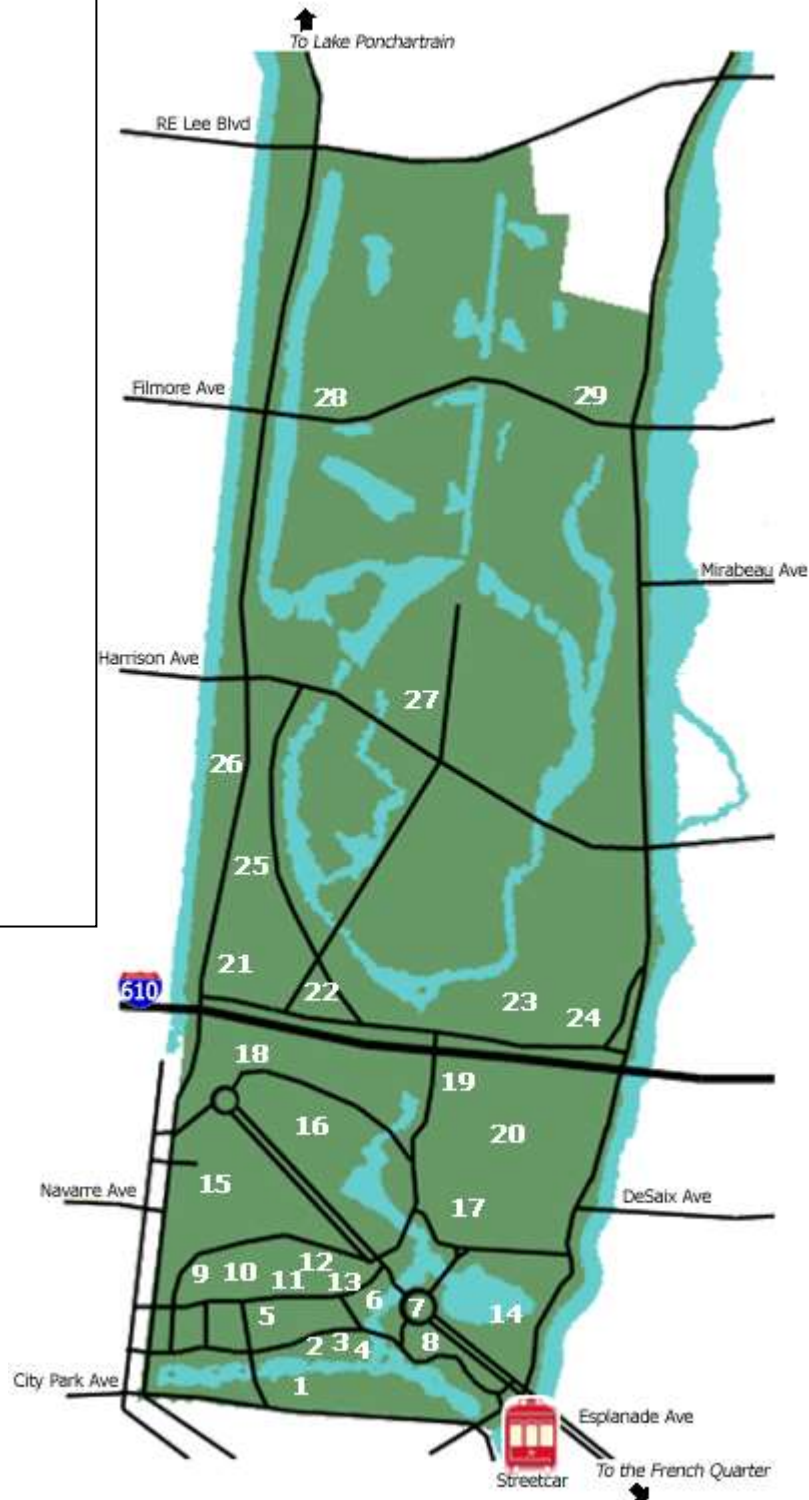


Figure 2. Map of New Orleans City Park including all buildings and attractions courtesy

of the New Orleans City Park Improvement Association (2009).

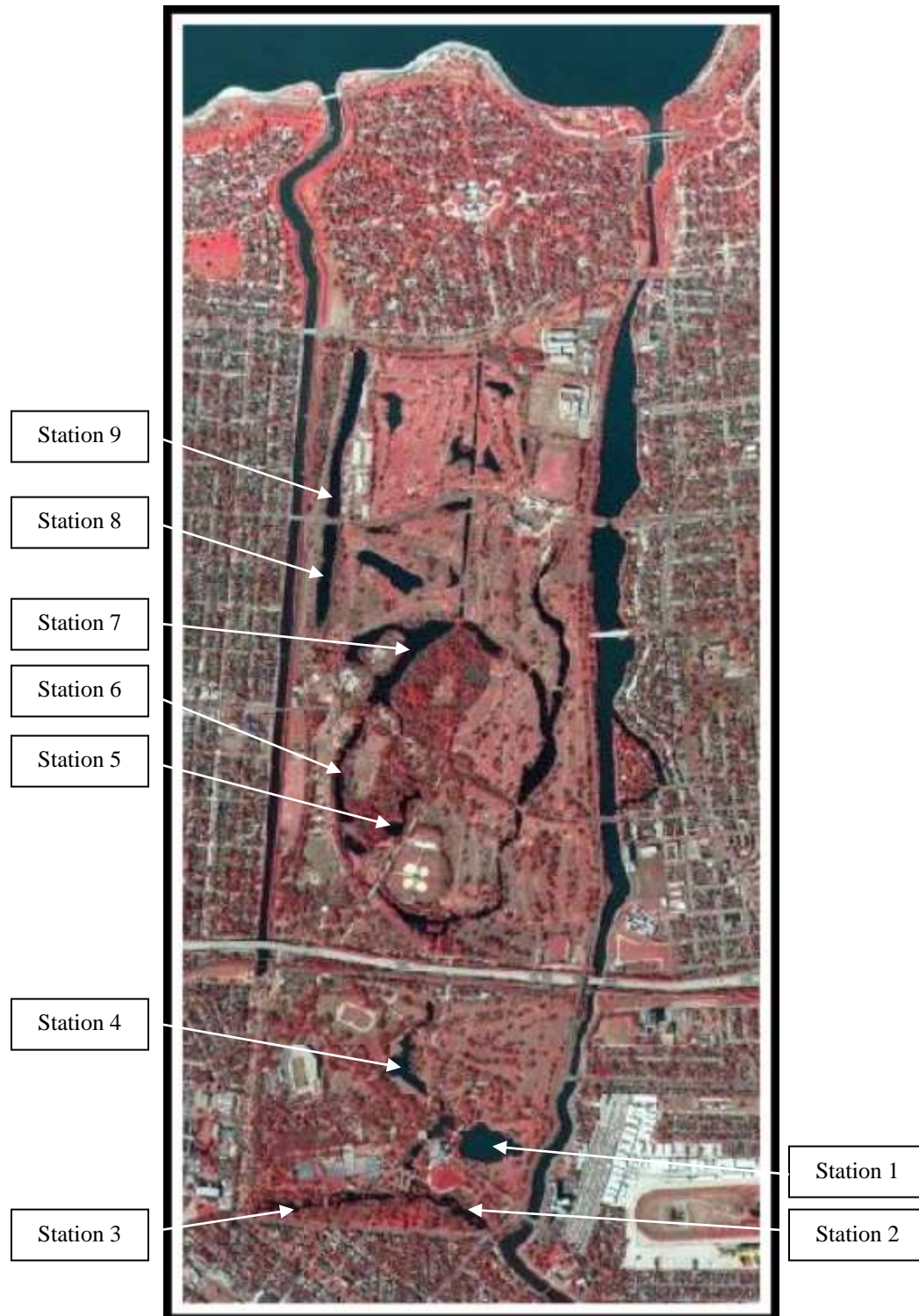


Figure 3. Louisiana Department of Wildlife and Fisheries electrofishing stations in New Orleans City Park. Aerial photography courtesy of Louisiana Department of Natural Resources (SONRIS).